LEGISLATIVE SERVICES AGENCY
OFFICE OF FISCAL AND MANAGEMENT ANALYSIS

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ADMINISTRATIVE RULE
FISCAL IMPACT STATEMENT

PROPOSED RULE: 98-235
STATE AGENCY: Department of Environmental Management

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Digest of Proposed Rule: This rule defines various terms pertaining to nitrogen oxide emissions and reductions. It regulates electricity generating units with a nameplate capacity greater than 25 megawatts. It also regulates industrial, commercial, and institutional steam generating units that have a heat input capacity greater than 250,000,000 British thermal units (Btu) per hour. Regulated entities must meet specified nitrogen oxide emission rates from May 1 through September 30 of each year beginning in 2003. Entities can receive a one-year extension in compliance if they demonstrate that they have reduced NOx emissions prior to May 1, 2003. This rule adds 326 IAC 10-0.5-1 concerning general definitions for nitrogen oxide rules and 326 IAC 10-2 concerning statewide nitrogen oxide reductions. Regulated entities must monitor their NOx emissions using continuous emissions monitoring systems (CEMS) or alternative procedures.

Governmental Entities: **State:** The proposed rule does not place unfunded mandates on any state agency.

Local: With respect to local units, only one local unit owns a utility. Compliance costs for Richmond Power and Light, owned by the City of Richmond, are estimated at between $350,000 to $1.4 million in additional expenses. (See below.)

Regulated Entities: Ten utilities with electric generating units (EGUs) currently operating in Indiana would be affected by the rule:

1. American Electric Power
2. Cinergy
3. Hoosier Energy
4. Indiana-Kentucky Electric Company
5. Indiana Municipal Power Agency
6. Indianapolis Power and Light
7. Northern Indiana Public Service Company
8. Richmond Power and Light
9. Southern Company
10. Southern Indiana Gas and Electric Company

The above utilities may contain one or more units that will be affected by the rule. These units will experience an increase in costs associated with installing, operating, and maintaining nitrogen oxides emissions control devices. If regulated entities prove to the Indiana Utility Regulatory Commission that they have complied with the rule in the most cost efficient manner, they may recover costs. Based on a study conducted by the State Utility Forecast Group at Purdue University, retail rates could increase by 4% to 6% if utilities seek reimbursement for increased costs associated with compliance to the rule. Other indirect impacts include an increase in demand for new workers to construct, install, operate, and maintain the pollution control equipment. This increase in employment will result in an indeterminable increase in income taxes.

The amount of emissions control that would be needed by each facility was estimated by considering projected heat inputs based on future energy needs and the baseline emissions rates. Both U.S.EPA and utilities' projections were considered. Once projected heat inputs and emission rates were established, control mechanisms were considered. Two types of flue gas treatment controls were considered: selective catalytic control systems (SCRs) and selective non-catalytic control systems (SNCRs). Both remove NOx from flue gas. A least-cost control strategy for each utility, consisting of the application of these controls on units yielding relatively lower costs per ton of NOx removed, was developed. An estimated 20 to 30 SCRs and seven to nine SNCR would be needed. Because some units monitor emissions using CEMS as required by the rule and other units can use alternative procedures as provided by rule, no additional monitoring costs will be incurred.

IC 13-14-9.5-2 provides that an administrative rule adopted under IC 14-14-9 expires January 1 of the seventh year after the year in which the rule takes effect, unless the rule contains an earlier expiration date. Over the seven-year life of the rule, costs were estimated at between $938 million to $1,449 million. Annualized capital, operating, and maintenance costs were estimated at between $134 million to $207 million. (Operating costs consider those costs experienced during the ozone season.)

Industrial, Commercial, and Institutional Steam Generating Units. (ICIs)

Eight facilities with ICIs currently operating in Indiana would be affected by the rule:

1. Alcoa
2. Amoco-Whiting
3. Bethlehem
4. Inland Steel
5. Indianapolis Power and Light
6. LTV Steel
7. New Energy Corporation
8. U.S. Steel.

For ICIs, combustion modification controls that are less expensive than SCRs and SNCRs could be employed. However, some of these units will incur additional monitoring costs. U.S.EPA estimated the annual cost of operating continuous emission monitoring at $32,300 in 1990 dollars. Currently several facilities monitor NOx emissions using continuous emissions monitoring systems (CEMS), so no additional costs would be incurred for these units. However, three additional CEMS would be needed for units currently without monitoring required by rule.

Annualized capital, operating, and maintenance costs were estimated at between $14 million to $15 million.

Capital start-up costs for monitoring equipment were estimated at between $500,000 to $600,000. Annualized capital and monitoring costs were estimated at between $112,000 to $124,000. Total annualized costs were estimated at $14.5 million to $15.6 million. Over the seven-year life of the rule, costs were estimated at between $98 million to $109 million.

Summary. The total estimated net impact on all regulated entities is listed below

Estimated Impact on Regulated Entities	
Electric Generating Units (EGUs)	Expenditure Range
Total Capital Costs for Control Equipment	$716 million to $1,180 million
Annualized Equipment, Operating, and Maintenance Costs During the Ozone Season	$134 million to $207 million
Equipment, Operating, and Maintenance Costs Over the 7-year Life of the Rule (based on annualized figures)	$938 million to $1,449 million
Industrial, Commercial, and Institutional Steam Generating Units. (ICIs)	
Total Capital Costs for Control Equipment	$75 million to $83 million
Annualized Equipment, Operating,, and Maintenance Costs During the Ozone Season for Control Equipment	$14 million to $15 million
Total Capital Costs for Monitoring Equipment	$500,000 to $600,000.
Annualized Capital and Monitoring Costs	$112,000 to $124,000
Annualized Equipment, Operating, Maintenance, and Monitoring Costs During the Ozone Season	$14.1 million to $15.1 million
Equipment, Operating, Monitoring, and Maintenance Costs Over the 7-year Life of the Rule (based on annualized figures)	$98 million to $109 million
Total Annualized Costs	**$148 million to $222 million**
Total Estimated Costs for the Life of the Rule (based on annualized figures)	**$1,036 million to $1,554 million**
All costs are in 1998 dollars. The above estimates were based on information provided by IDEM. IDEM provided regulated entities with opportunities to provide input into the calculations of these estimates.	

Information Sources: Jean Beauchamp, Senior Environmental Manager I, (317) 232-8424; Shri Harsha, Senior Engineer I, Office of Air Management, Indiana Department of Environmental Management (317) 232-8228.